

Air Force Civil Engineer Center

Integrity - Service - Excellence



Overview of the Air Force Complex Sites Initiative

Samuel L. Brock
SME Toxicology /Risk Assessment
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Air Force Complex Sites Initiative

- **Air Force Complex Sites Initiative (CSI) focuses on five percent of AF sites**
 - **Approximately 1000 sites not expected to close by 2020**
 - **Sites not closed by 2020 are Complex**
 - **ID sites we can close by 2041 & manage differently**
 - **Implement a process to identify sites and contract strategy**
 - **Contract based on technical complexity**
- **Enterprise View of Technical Performance**
- **Integrate surveillance with legacy guidance and tools**
- **Optimized Exit Strategy (OES)**

We need adequate, though often imperfect, answers to difficult and expensive questions

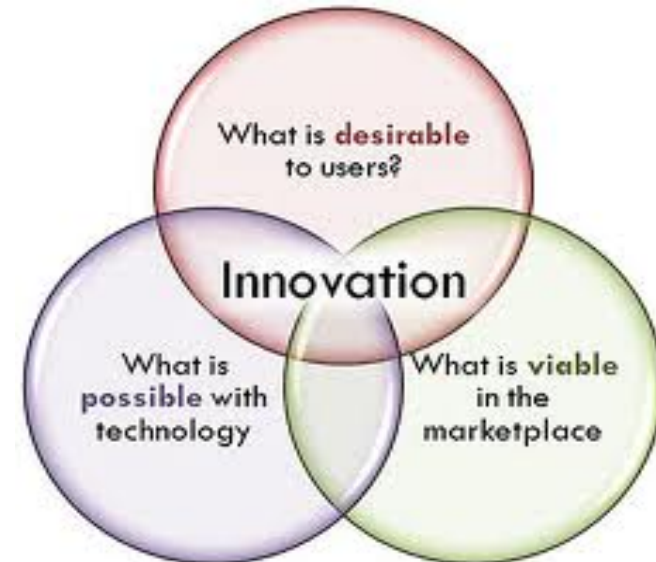
Modified from Daniel Kahneman



Paradigm Shift in AF Restoration Beginning in FY11

“Fence-to-Fence” Performance-Based Remediation

- Emphasis on *innovation*, and leverages *technology*
- What does the marketplace offer?
- Emphasis on SC (*unrestricted*, Residential Levels)
- *Lifecycle cost* considerations
- Anticipated Outcomes
 - Reach site closeout faster
 - Minimize life-cycle costs
- *Current PBRs continue through 2020 or later*
- *CURRENT Focus is Response Complete (RC)*





AFCEC Complex Sites - Current Challenges

Budget

- Current contract policy emphasizes site completion
- Identify lower cost technologies
- Slower cleanup schedule
- Stop ineffective systems

Technology Limitations

- Cannot close all sites
- Performance models
- Use available technology effectively
- Change technology when appropriate

Alternative Endpoint Report

- CERCLA – site specific decisions
- Protectiveness required when technical solution is inadequate
- Protectiveness requires alternative endpoints

New Contaminants & Low Standards

- New regulatory standards
- Screening-level revised lower
- New remediation technology
- New analytical methods



Elements of Technical Performance

■ Pre-Award

- OES *Baseline Performance* Development
 - Performance goals required to achieve Contract Objective

■ Post-Award

- **Integrated approach to track overall PBR performance**
 - Surveillance to *Assess Quality and Performance*
 - **Critical Process Analysis (CPA)**
 - Validate remedy/meets performance model
 - Determine Contingency Response
 - **Complex Site Initiative (CSI)**
 - Evaluate systems + Monitoring Network + Conceptual Model

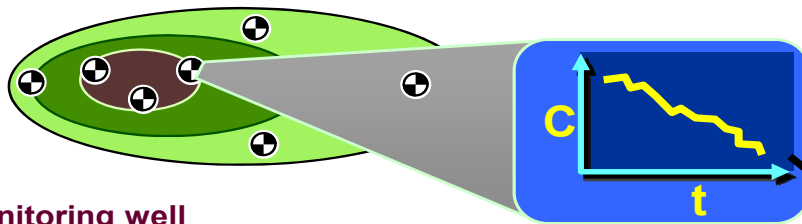


Technical Quality - OES Baseline

OES Baseline - Technical Performance Monitoring I

EX: Geomean Σ CVOCs (μ M)

Well # 1	425	
Well # 2	362	Median
Well # 3	155	259
Well # 4	105	



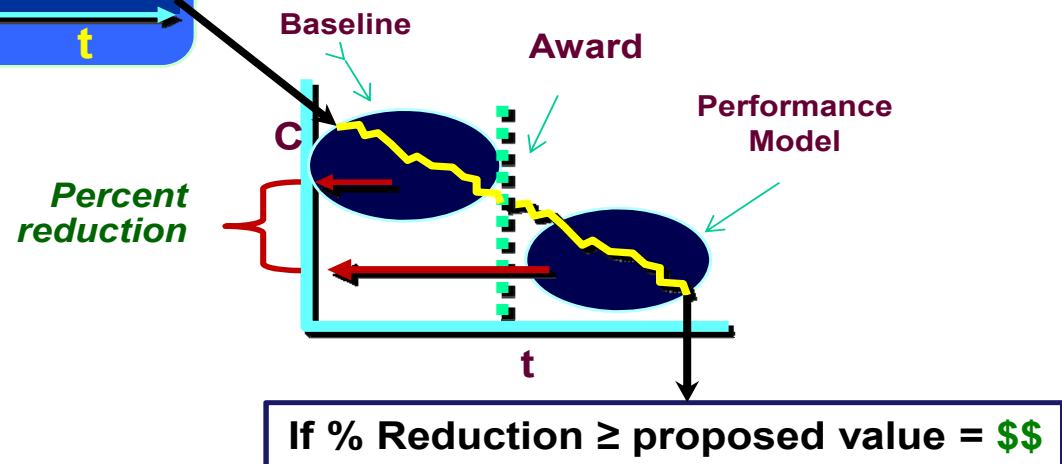
⊕ = Monitoring well

Post-Award

- Contractor must meet or beat proposed performance goals/standards to approve milestone payments
- FY11/FY12 PBRs – No established framework for performance

Pre-Award

- Establish *baseline* of conditions at high cost, complexity, risk (CCR) sites with OES as MPO starting in FY13 to support Technical Evaluation
- Require contractor to propose performance goals/standards to meet or beat the initial baseline



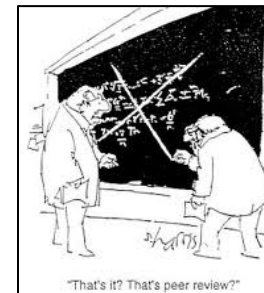


Critical Process Analysis (CPA)

A CPA is an extensive technical evaluation of an active environmental *remediation system* at sites with high cost, complexity and risk (CCR) to:

- *Validate technology and design* specifications
- Verify construction and operation according to design requirements
- *Validate* whether the system is *on track* to meet *performance objectives*

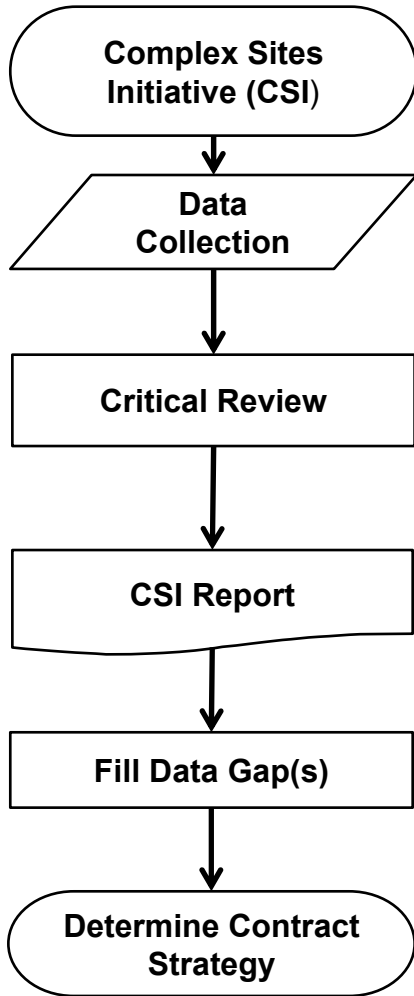
Independent Verification



Questions regarding CPA: afcec.czte.cpa



Complex Sites Initiative (CSI)



Eligible sites – high cost complex sites where technical analysis is required to determine if possible to achieve SC/RC, or alternative strategies such as TI waiver, where no real progress is deemed technically feasible.

Air Force identify and assemble critical information for each site

Air Force perform multi-day critical review of site data to identify requirements, utilizing EPA’s DQO process

Outcome of critical review that identifies appropriate goals, establishes path forward, and identifies appropriate technologies.

Air Force contract to conduct fieldwork to fill any data gaps

Air Force determine path forward and suitable contract mechanism to achieve appropriate endpoint

BENEFITS
<ul style="list-style-type: none"> • Standardized process to assess complex sites • Buys-down uncertainty of follow-on contract • Conceptual basis and decision logic to design optimal systems • Independent (unconstrained) review of site • Independent verification of contractor(s) remediation strategy • Opportunity to scope a better contract and objectives • Basis for decision whether or not to award a follow-on SubCLIN • Data will be available to follow-on contractor

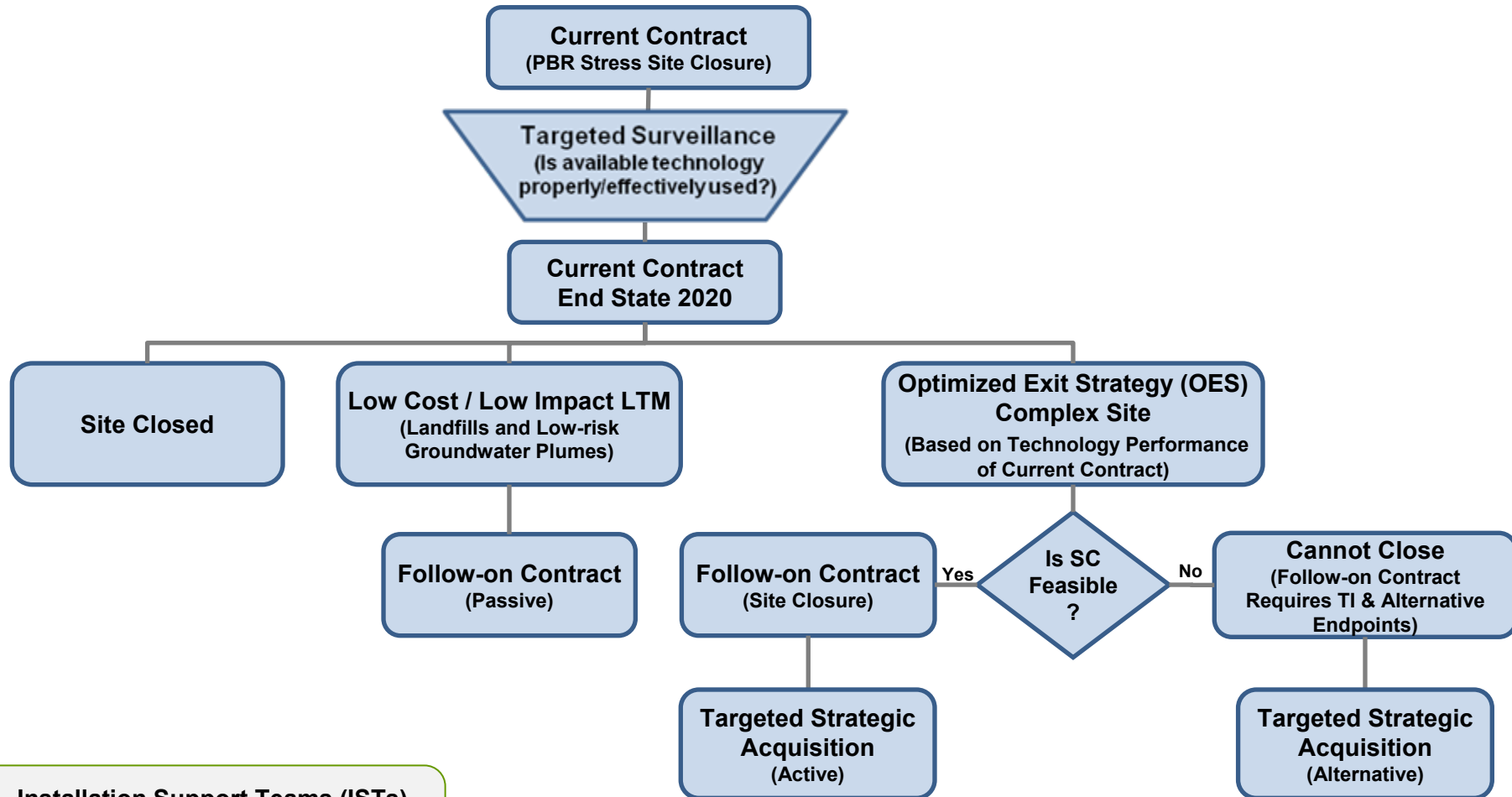


Other Elements of Complex Sites Initiative

- **Base-wide Conceptual Site Model**
- **PBR Chemistry Performance Evaluation**
- **5-Year Review**
- **ROD Review**
- **Integrate surveillance with legacy guidance and tools**
 - **Long-term Monitoring Optimization Tools**
 - **Geostatistical Temporal-Spatial (GTS) optimization software**
 - **Monitoring and Remediation Optimization System (MAROS) software**
 - **3TMO (3-Tiered Monitoring Optimization tool)**
 - **ITRC Using Remediation Risk Management to Address Groundwater Cleanup Challenges at Complex Sites, January 2012**



AFCEC Conceptual Model for Complex Sites and Alternative Endpoints

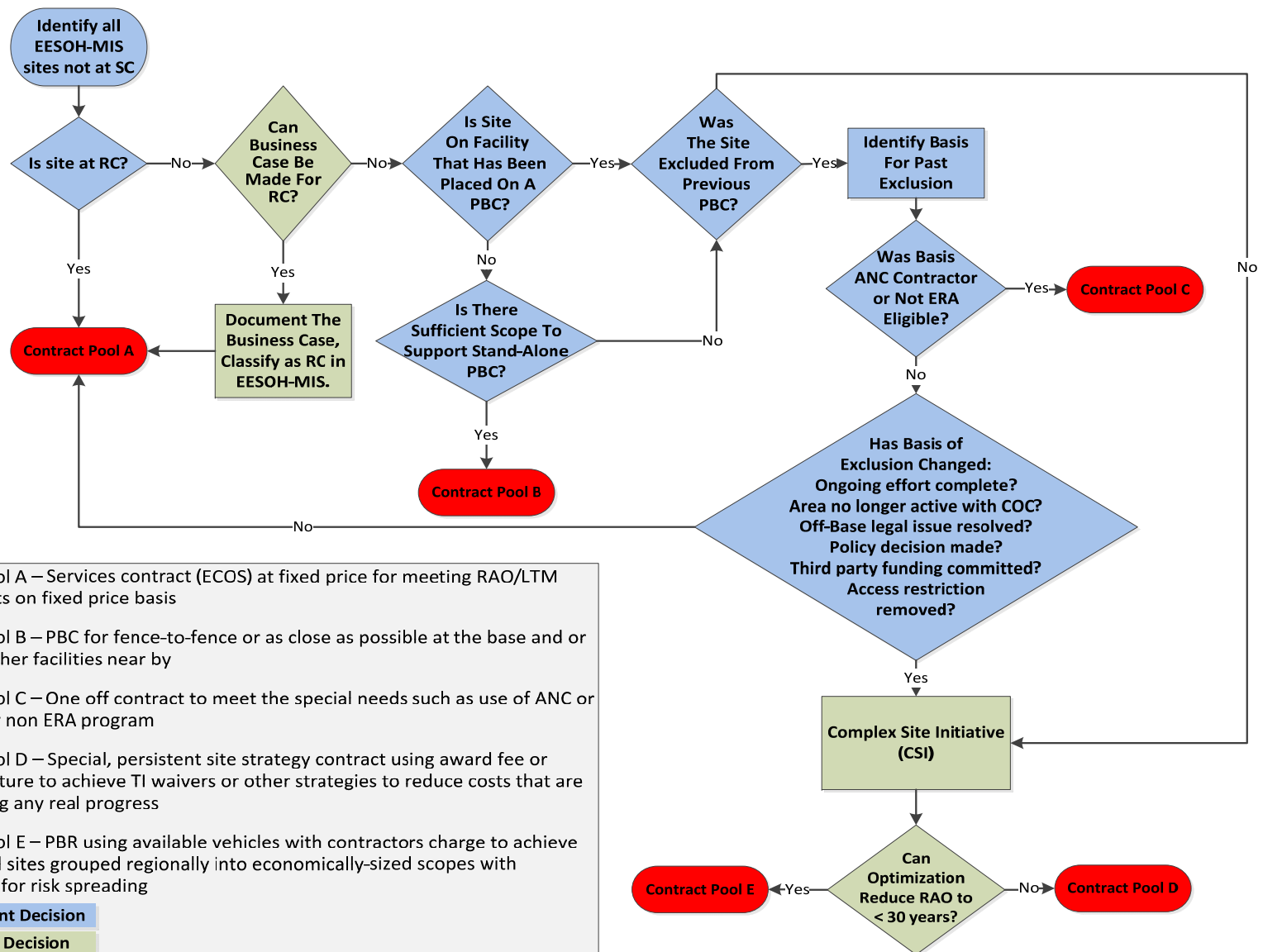


Installation Support Teams (ISTs) are the basis for Targeted Strategic Acquisition Implementation



Follow-on Acquisition Strategy

EQUO/Pre-decisions/Internal DoD use only



- Contract Pool A – Services contract (ECOS) at fixed price for meeting RAO/LTM requirements on fixed price basis
 - Contract Pool B – PBC for fence-to-fence or as close as possible at the base and or base with other facilities near by
 - Contract Pool C – One off contract to meet the special needs such as use of ANC or designed for non ERA program
 - Contract Pool D – Special, persistent site strategy contract using award fee or similar structure to achieve TI waivers or other strategies to reduce costs that are not providing any real progress
 - Contract Pool E – PBR using available vehicles with contractors charge to achieve SC or RC and sites grouped regionally into economically-sized scopes with opportunity for risk spreading
- Management Decision**
- Technical Decision**



Approach Comparison

	EPA Roadmap	NAS Alternative Decision Process	AF Complex Sites Execution Model
Site Closure	✓	✓	✓
Change Technology (Active)	✓	✓	✓
Alternative Approaches	✓	✓	✓
Passive Long-Term Management		✓	✓
Acquisition Strategy			✓



Air Force Needs:

- **Guidance/criteria and procedures to determine whether progress is “likely” to achieve RAOs**
- **Guidance describing procedures to determine progress and triggering criteria to change remedial alternatives**
- **Guidance/criteria and procedures to determine whether restoration is achievable at reasonable cost “within a reasonable time frame” such as 20 to 30 years**
- **Guidance on development and streamlining Record of Decisions that accommodate “adaptive site management” and sequential technologies without requiring a ROD amendment.**



Air Force CSI

■ **Questions?**